

IN THE CLAIMS:

This listing of claims will replace all prior versions, and listings of the claims in the application.

1. – 23. (Cancelled)

24. (Currently Amended) The A synthetic mammalian expression plasmid of claim 1,
wherein the codon-optimized eukaryotic therapeutic gene sequence comprises SEQ ID NO:7 of
claim 1, wherein the codon-optimized eukaryotic therapeutic gene sequence comprises
SeqID#7 for plasmid mediated gene supplementation in a species comprising:
(a) a synthetic or eukaryotic promoter comprising SEQ ID NO: 15;
(b) a codon-optimized eukaryotic therapeutic gene sequence comprising SEQ ID NO: 7;
(c) a polyadenylation signal;
(d) a selectable marker gene sequence;
(e) a ribosomal binding site;
(f) a promoter for the selectable marker gene sequence; and
(g) an origin of replication;
wherein the synthetic or eukaryotic promoter, the codon-optimized-eukaryotic therapeutic
gene sequence, and the polyadenylation signal comprise therapeutic elements of the syntetic
mammalian expression plasmid; the therapeutic elements are operatively linked and located in a
first operatively-linked arrangement; the selectable marker gene promoter, the ribosomal binding
site, the selectable marker gene sequence, and the origin of replication comprise replication
elements of the syntetic mammalian expression plasmid; the replication elements are
operatively linked and located in a second-operatively-linked arrangement comprise a circular
structure of the syntetic mammalian expression plasmid; and the syntetic mammalian
expression plasmid is utilized for plasmid mediated gene supplementation in the species.

25. - 28 (Cancelled)

29 (Currently Amended) A synthetic mammalian expression plasmid comprising SEQID#19
SeqID#19SEQ ID NO:19.

30. -37. (Cancelled).